

Nutaq GSM/EDGE SuperFemto

PRODUCT SHEET



Nutaq GSM/EDGE SuperFemto

- **Smallest 2.75G solution on the market**
 - **Low-power, high-capacity solution**
 - **Easy to install and configure**
 - **De facto replacement for pico-BTS**
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The GSM/EDGE SuperFemto opens up new market possibilities as the small-cell wireless market keeps demanding better cost-efficiency and increased performance and functionalities.

Nutaq's state-of-the-art solution meets market demands by delivering the output power and capacity of a picocell base station and converging towards the power consumption and cost of a femto-BTS. The performances of the GSM/EDGE SuperFemto exceed the ones of available picocells, making it a more than logical alternative.

SIMPLE TO DEPLOY

The GSM/EDGE SuperFemto supports GSM, GPRS, and EDGE in a variety of logical channel combinations, adapting to traffic requirements and optimally exploiting radio link resources.

Deploying a radio access network (RAN) through the help of a GSM/EDGE SuperFemto only demands minimal infrastructure as backhaul communications are performed through Ethernet, leveraging existing IP networks. Network planning is also made much simpler through the GSM/EDGE SuperFemto's network listening capability, which allows identifying neighbouring cells and measuring their signal strengths.

The GSM/EDGE SuperFemto's default dual-band configuration supports 900/1800 or 850/1900 (for other configurations, contact Nutaq). Increase channel capacity by combining several units so they act as a single, multi-TRX base station.

APPLICATIONS

- Lowest-cost 2.75G deployments
- Radio access networks (RAN)
- Private networks
- In-building coverage
- Dead spot coverage

FLEXIBLE SOLUTION

The GSM/EDGE SuperFemto can be used as a complete, ready-for-deployment solution by mobile service operators. It can also be used as a customizable solution in applications where specific functionalities and interfaces are essential.

To meet your needs, Nutaq offers:

- Hardware and BTS (Abis over IP)
- Hardware, BTS, and BSC (A interface over IP)
- Hardware, BTS, and custom interface
- Hardware and Layer 1

SPECIFICATIONS

Analog

- Band support: dual band (default); 900/1800 or 850/1900
- Operating frequencies:

Band	Reception	Transmission
850	824–850 MHz	869–895 MHz
900	880–915 MHz	925–960 MHz
1800	1710–1785 MHz	1805–1880 MHz
1900	1850–1910 MHz	1930–1990 MHz

- Channel selection modes:
 - Operator-managed
 - Automatic (network listening)
- Performance: Superior to GSM 05.05 (picocell profile)
- Maximum output power:

Band	GMSK	8PSK
850	22 dBm	18 dBm
900	22 dBm	18 dBm
1800	25 dBm	20 dBm
1900	25 dBm	20 dBm

- Gain range: 10 steps
- Clock accuracy: < 0.1 ppm
- Oscillator type: VCTCXO default, OCXO optional
- Long-term correction: synchronization on macro/micro BTS through network monitoring.

Channel support

- Traffic:
 - TCH/F + FACCH/F + SACCH/TF
 - TCH/H(0,1) + FACCH/H(0,1) + SACCH/H(0,1)
- Beacon:
 - FCCH + SCH + BCCH + CCCH
 - FCCH + SCH + BCCH + CCCH + SDCCH/4(0..3) + SACCH/C4(0..3)
 - SDCCH/8 (0..7) + SACCH/C8(0..7)

- Packet switching:
 - CS-1 to CS-4 encoding
 - MCS-1 to MCS-9 encoding
- Speech format: AMR, HR, FR
- Encryption: A5/1 and A5/2
- Multi-TRX: Yes (by combining units)

Physical interfaces

- Antenna type: dual port, internal (PCB), or external (SMA)
- Traffic and control: 10/100 Mbps Ethernet RJ45
- Status indicator: LEDs \varnothing 4

Logical interfaces

- Abis over IP
- A-interface over IP
- Layer-1 SAP

Electrical

- Power consumption: less than 13 W
- Input voltage: 5 VDC

Mechanical

- Approximately 100 mm × 160 mm × 60 mm (W×H×D)

Environmental

- Operating temperature: 0 °C to 45 °C
- Storage temperature: -40 °C to 70 °C
- Humidity: 90%, non-condensing
- Cooling: passive

Compliance

- 3GPP TS 04.04
- 3GPP TS 05.02 — 05.05
- 3GPP TS 05.08
- 3GPP TS 05.10

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